

term "selected from the group consisting essentially of" as agreed upon with the Examiner in a telephone interview on April 26, 2001. Applicants therefore request withdrawal of the objection.

CONCLUSION

Applicants submit that the claims now stand ready for allowance and such allowance is courteously solicited. Should the Examiner have any questions or wish to further discuss this matter, it is respectfully requested that the Examiner contact the undersigned agent at (248) 641-1600.

Respectfully submitted,

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## ATTACHMENT FOR SPECIFICATION AMENDMENTS

On page 1, line 2, in between the title and SPONSORSHIP, please add --This is a regular application of provisional application Serial No. 60/103,961 filed on October 13, 1998.--

(Page 3, lines 2-17) The present invention relates to new isostructural compounds having the general formula  $A_nM_mM'_nQ_{2n+m}$  where A is [a metal selected from the group consisting essentially of the] an alkali metal[s], such as lithium (Li), sodium (Na), potassium (K), rubidium (Rb), or cesium (Cs) or the transition metal[s] silver (Ag) or thallium (Tl) and mixtures thereof, M is [selected from] lead (Pb), tin (Sn), germanium (Ge), calcium (Ca), strontium (Sr), barium ([Ga] Ba), any divalent transition metal [and] or mixtures thereof, M' is [selected from] bismuth (Bi), antimony (Sb) [and] or mixtures thereof, and Q is [selected from the group consisting essentially of] sulfur (S), selenium (Se), or tellurium (Te) and mixtures thereof. These compounds possess an NaCl-type cubic lattice crystal structure where A, M and M' occupy the Na sites and Q occupies the Cl (chlorine) sites. This family of compounds combine isotropic morphology, an advantageous property for device processing, with low thermal conductivity and widely ranged electrical conductivity. Further, certain properties such as the electrical properties of the compounds can be controlled by varying the values for n and m. The isostructural compounds of the present invention are therefore good candidates for semiconductor applications in thermoelectronic devices, detectors, and photovoltaic cells, by way of non-limiting example.

(Page 3, line 34 to page 4, line 5) The present invention provides new isostructural compounds having the general formula  $A_nM_mM'_nQ_{2n+m}$  where A is [selected from a group of cations selected from the group consisting essentially of] an alkali metal, such as lithium (Li),

sodium (Na), potassium (K), rubidium (Rb), cesium (Cs), or the transition metal silver (Ag) or thallium (Tl) and mixtures thereof, M is [selected from] lead (Pb), tin (Sn), germanium (Ge), calcium (Ca), strontium (Sr), barium (Ba), any divalent transition metal [and] or mixtures thereof, M' is [selected from] bismuth (Bi), antimony (Sb) [and] or mixtures thereof, and Q is [selected from the group consisting essentially of] sulfur (S), selenium (Se), or tellurium (Te) and mixtures thereof.

(Page 9, lines 13-23) The isostructural components of the present invention can be used to produce N-type semiconductor materials by doping with various impurities. Isovalent anionic dopants, where S or Se is substituted for Te and S for Se may be used in about less than 1 atomic percent. Other examples of compounds that can be used for doping are the metal halides  $SbX_3$ ,  $BiX_3$ , and  $Hg_2Cl_2$ ,  $DX_2$  where X is [selected from the group consisting essentially of] chlorine, bromine, iodine and mixtures thereof and D is [selected from the group consisting essentially of] chromium, manganese, iron, cobalt, nickel, copper, zinc, magnesium and mixtures thereof. These are examples of compounds that can be used for doping and are in no way meant to be limiting. It should be appreciated by those skilled in the art that any dopant can be used to dope the isostructural compounds of the present invention to form enhanced P-type and N-type semiconductors.